Claims

[c1] 1. A temperature sensor, comprising a temperature sensing element and a coating thereon comprising thermally conductive particles in a resin matrix.

[c2] 2. The sensor of claim 1 wherein said coating material comprises a metallic particles in said resin matrix.

[c3] 3. The sensor of claim 2 wherein said metallic particles comprise aluminum particles.

[c4] 4. The sensor of claim 1 wherein said coating material comprises non-metallic particles in said resin matrix.

[c5] 5. The sensor of claim 1 wherein said temperature sensing element comprises a thermistor bead.

[c6] 6. The sensor of claim 1 including an electrical insulating coating between said temperature sensing element and said coating.

[c7] 7. An intake manifold air temperature sensor, comprising a thermistor bead having a coating thereon comprising thermally conductive particles in a resin matrix.

[c8] 8. The sensor of claim 7 wherein said material comprises metallic particles in said resin matrix.

[c9] 9. The sensor of claim 8 wherein said metallic particles comprise aluminum particles.

[c10] 10. The sensor of claim 7 wherein said material comprises non-metallic particles in said resin matrix.

[c11] 11. The sensor of claim 7 including an intermediate electrical insulating coating disposed between said thermistor bead and said coating.

[c12] 12. A temperature sensor, comprising a temperature sensing element having thereon an inner coating having a relatively low thermal diffusivity and an outer coating having a relatively high thermal diffusivity.

[c13] 13. The sensor of claim 12 wherein said inner coating comprises a resin.

[c14] 14. The sensor of claim 13 wherein said resin comprises epoxy resin.

[c15] 15. The sensor of claim 12 wherein said outer coating comprises a resin matrix containing thermally conductive particles.

[c16] 16. The sensor of claim 12 wherein said inner coating has a thickness of 0.01 to 0.05 mm.

[c17] 17. The sensor of claim 16 wherein said outer coating has a thickness of 0.1 to 1 mm.